

CLAIMS

1. A method of producing a mechanical part on the basis of a computer-aided design, of the type
5 comprising:
 - a preliminary step of breaking down the body of the part into elementary strata;
 - a step of manufacturing the elementary strata;
 - a step of reconstructing the part in its entirety
10 by superposing and assembling the strata,characterized in that:
 - the procedure incorporates, during the breaking-down of the part, the breaking-down, into elementary chambers (20), of at least one fluid
15 transport circuit designed beforehand according to a break-down associated with that of the part;
 - said elementary chambers are produced in the elementary strata (7i) of the part during the step of manufacturing the strata; and
 - 20 - the fluid transport circuit is reconstructed in its entirety during the superposition and assembly of the strata.

2. The method as claimed in claim 1, characterized in
25 that:
 - the procedure also incorporates, during the breaking-down of the part, the breaking-down of an additional isolating circuit into elementary isolating chambers according to a break-down
30 associated with that of the part;
 - said elementary isolating chambers are produced in the elementary strata of the part during the step of manufacturing the strata; and
 - the isolating circuit is reconstructed during the
35 superposition and assembly of the set of strata.

3. A mechanical part of the type comprising a body with at least one fluid transport circuit composed, for

example, of channels produced in the body and at a predetermined distance from a heat exchange surface, characterized in that the circuit is produced by a method as claimed in either of claims 1 and 2 and in
5 that the circuit is reconstructed in its entirety during assembly of the strata, based on a succession of elementary chambers that are brought into communication in a fluidtight manner and are provided in at least one portion of the strata in question.

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4. A mechanical part as claimed in claim 3, characterized in that the circuit, after reconstruction, forms, in the body of the part, a set of parallel channels following or copying a surface at
15 a predetermined distance from the latter.

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5. The mechanical part as claimed in claim 3, characterized in that the circuit, after reconstruction, forms, in the body of the part, a layer-shaped chamber.

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6. The mechanical part as claimed in one of claims 3 to 5, characterized in that the circuit includes means for connection to a regulating device.

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7. The mechanical part as claimed in one of claims 3 to 5, characterized in that the interior of the circuit includes a multiplicity of transverse fins (21) for mechanical reinforcement and for stirring the fluid.

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8. The mechanical part as claimed in one of claims 3 to 7, characterized in that it furthermore includes an additional isolating circuit also reconstructed in its entirety during assembly of the strata, based on a succession of elementary chambers that are brought into communication in a fluidtight manner and are provided in at least one portion of the strata.

9. The mechanical part as claimed in claim 8, characterized in that the isolating circuit is composed of a plurality of parallel channels.

5 10. The mechanical part as claimed in claim 8, characterized in that the isolating circuit forms a layer-shaped chamber.

10 11. The mechanical part as claimed in one of claims 3 to 10, characterized in that the part includes, between the strata, an application of mechanical adhesive on the regions extending from the channels as far as the outside of the mold, and an application of adhesive with a predetermined thermal conductivity on the
15 regions extending from the cooling circuits as far as the molding surface.

20 12. The mechanical part as claimed in one of claims 3 to 11, characterized in that the fluid transport circuit is filled with a fluid chosen from the group: heat exchange fluid, thermal insulation fluid, liquid or pulverulent material, marking fluid.